

CLAIM AMENDMENTS

Please cancel claims 10, 12 and 21, and amend claim 17 as follows:

Claims 1 and 2 (canceled)

Claim 3. (previously presented) A method for manufacturing a semiconductor device, comprising:

a step of forming projection electrodes on a surface at a front side of a semiconductor substrate,

after said step of forming projection electrodes, a step of forming a surface resin layer on the surface of the semiconductor substrate,

a step of forming a back side resin layer on a back side of the semiconductor substrate so that the surface resin layer and the back side resin layer have substantially the same thickness respectively,

a surface grinding step of exposing the projection electrodes from the surface resin layer by polishing or grinding the surface resin layer,

bracing the substrate with the back side resin layer until after the surface grinding step, and

after said surface grinding step, a back side grinding step of thinning the semiconductor substrate by removing the back side resin layer, through polishing or grinding, from the semiconductor substrate provided with the surface resin layer and the back side resin layer, and by further polishing or grinding the back side of the semiconductor substrate from which the back side resin layer has been removed.

Claim 4 (original) A method for manufacturing a semiconductor device as claimed in claim 3, further comprising a cutting out step of cutting out pieces of semiconductor devices by cutting the semiconductor substrate along cutting lines after completing the back side grinding step.

Claim 5 (canceled)

Claim 6. (previously presented) A method for manufacturing a semiconductor device as claimed in claim 3, in which the surface resin layer is formed in such a manner that the projection electrodes are embedded in the surface resin layer.

Claims 7-16 (canceled)

Claim 17. (currently amended) A method for manufacturing a semiconductor device, comprising:

a chip bonding step of bonding a plurality of semiconductor chips face-down onto a surface of a semiconductor substrate with active surfaces of the semiconductor chips opposed to the surface of the semiconductor substrate, in such a manner that the plurality of semiconductor chips and substrate define chip-on-chip structures,

an electrode forming step of forming a plurality of projection electrodes on the surface of the semiconductor substrate, including forming each of the projection electrodes with a height such that the top end each projection electrode is between the height of the active surface of the semiconductor chips and a height of an inactive surface of the semiconductor chips,

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a resin sealing step of sealing, with a protective resin, the semiconductor chips and the exposed surface of the semiconductor substrate after forming the projection electrodes in such a manner that head portions of the projection electrodes are exposed, and
a cutting out step of taking out individual pieces of chip-on-chip type semiconductor devices by cutting the semiconductor substrate along predetermined cutting lines.

Claim 18. (original) A method for manufacturing a semiconductor device as claimed in claim 17, in which the resin sealing step includes an electrode exposing step of exposing the head portions of the projection electrodes by removing a surface layer section of the protective resin.

Claim 19. (previously presented) A method for manufacturing a semiconductor device as claimed in claim 18, in which the electrode exposing step includes a chip grinding step of simultaneously polishing or grinding the protective resin and an inactive surface side of the semiconductor chips.

Claim 20. (previously presented) A method for manufacturing a semiconductor device as claimed in claim 17, in which a back side of the semiconductor substrate or an inactive surface side of the semiconductor chips is polished or ground before the cutting out step.

Claims 21 – 25 (canceled)

Claim 26. (previously presented) A method for manufacturing a semiconductor device as claimed in claim 3, further comprising a cutting out step of cutting out pieces of semiconductor devices by cutting the semiconductor substrate along cutting lines after completing the back side grinding step, wherein the surface grinding step includes exposing the projection electrodes from the surface resin layer by polishing or grinding the surface resin layer

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such that the remaining surface layer has a thickness that is uniform at least within the cutting lines defining the individual pieces cut out of semiconductor devices in the cutting out step.

Claim 27. (previously presented) A method for manufacturing a semiconductor device as claimed in claim 3, wherein said step of forming a surface resin layer includes forming the surface layer with uniform thickness.

Claim 28. (previously presented) A method for manufacturing a semiconductor device as claimed in claim 3, wherein the surface grinding step includes grinding the surface resin layer so that the heights of the plurality of projection electrodes are uniform.

Claim 29. (previously presented) A method for manufacturing a semiconductor device as claimed in claim 17, wherein the semiconductor substrate includes a semiconductor wafer and the method is performed a wafer level basis.